EMERGENCY MANAGEMENT ALBERTA

Flood Disaster

Detailed Information About
What To Do Before, During and After Flooding

Alberta
MUNICIPAL AFFAIRS

Flood Disaster: Detailed information about what to do before, during and after flooding.

Developed by Emergency Management Alberta. Available in Adobe pdf format at http://www.gov.ab.ca/ds. For more information please contact Emergency Management Alberta: telephone 780-422-9000; fax 780-422-1549; or email disaster.services@gov.ab.ca

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Flood Disaster

Detailed Information About What to do before, during and after flooding

BEING PREPARED

Flood Notification

Alberta Environment monitors weather patterns, precipitation and provincial water levels and flows. Its Water Science Branch provides a comprehensive series of public advisories about potential flooding. These include river stage-up advisories, ice-jam warnings, high streamflow advisories, flood watches and flood warnings. The Branch advises water managers, municipalities and Emergency Management Alberta about flood potential.

- *A High Streamflow Advisory means that stream levels are rising or expected to rise rapidly and no major flooding is expected. Minor flooding in low-lying areas is possible. Anyone situated close to the streams affected (campers, fishermen, boaters and the general public) is advised to be cautious of the rising levels.*
- *A Flood Watch means that stream levels are rising and will approach or may exceed bank full. Flooding of areas adjacent to these streams may occur. Anyone situated close to the streams is advised to take appropriate precautionary measures.*
- *A Flood Warning means that rising river levels will result in flooding of areas adjacent to the streams affected. Anyone situated close to the river should take appropriate measures to avoid flood damage.*

Municipal governments are responsible for informing their residents about possible flooding and providing detailed information about what to do to protect their families and property. This information is often provided through local newspapers, and radio and television stations.

Emergency Management Alberta provides support to affected municipalities when major flooding occurs. This manual can help you and your family minimize your loss in a flood situation. Information is your best defense when emergencies occur.

Develop a Family Emergency Plan (for all types of emergencies)

- Contact your local Director of Disaster Services or municipal government office to find out what emergency or disaster events could occur in your area. Ask what you should do to prepare for each.
- Learn the warning systems your municipal government uses. Make sure you know what the signals mean, how they will be used, and what you should do when you hear them.
- Develop a family emergency plan:
  - Discuss the type of disasters that could occur
  - Explain how to prepare and respond
  - Discuss what to do if advised to evacuate
  - Practice what you have discussed

- Include arrangements for family members with special needs (disabled and elderly who use special medical equipment, etc.) in your plan.
- Make arrangements for your family pet(s) in your planning. Contact your local disaster services office or your veterinarian for information.
- Plan how your family will stay in contact if separated by a disaster or emergency:
  - Pick two meeting places: (1) a location at a safe distance from your home in case of fire; (2) a place outside your neighbourhood in case you cannot return home.
  - Choose a relative or friend who lives outside your municipality, as a "check-in contact" for everyone to call.
- Post emergency telephone numbers by every phone in your home.
- Teach children how and when to call fire, police and emergency medical services, and which local radio station to tune into for emergency information.
- Prepare an emergency kit for the home and for each vehicle. Maintain the kits (replenish supplies, etc.) and make sure everyone knows where they are stored. (See *Emergency Kit* on page 4, for suggestions for your kit).
- Show family members how and when to shut off water, gas and electricity at the main switches.
- Learn your community's evacuation routes, as some hazards may force you to leave your home.

- Learn first aid and CPR.
- Meet with your neighbours and plan how you would work together in a disaster situation. Include neighbours with special needs, such as elderly or disabled persons in your planning.

Emergency Kit

An emergency can isolate you in your home for several days. After a disaster, local emergency services may be at the scene but cannot reach everyone immediately. When a disaster occurs, you may not have time to shop or search for supplies. But if you have supplies gathered in advance, your family can withstand isolation or evacuation.

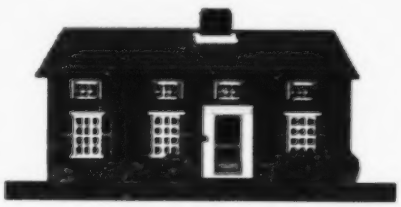
- Family records kept at home should be stored in a portable, fireproof, and waterproof container:
  - mortgage papers, medical records, insurance policies, marriage and birth certificates, wills, bank account and credit card numbers, stock and bond certificates, tax records, passports, computer disks and tapes
  - irreplaceable items (photographs, heirlooms)
  - household inventory
  - important telephone numbers
- Store "tap" water in sealed, unbreakable containers. Adults need a minimum of one litre of water per day for drinking. Hot environments and intense physical activity can double that amount. Children, nursing mothers and ill persons may need more. Replace stored water every six months.
- Make sure you have at least a five-day supply of food and water for each family member on hand. Select foods that require no refrigeration, preparation or cooking and little or no water. Foods should be non-perishable, such as canned or sealed-package items. Rotate foods in with your regular pantry supplies. Suggested items are:
  - ready-to-eat canned meats, fruits and vegetables
  - canned juices, milk, soup (if powdered, store extra water)
  - cartons of ultra heat-treated (UHT) milk.
  - staples - sugar, salt, pepper
  - high energy foods - peanut butter, jelly, crackers, granola bars, trail mix
  - foods for infants, the elderly or persons on special diets
  - comfort stress foods - cookies, hard candy, sweetened cereal, instant coffee, tea bags
- Medicines required by family members such as insulin or prescriptions. Check with your doctor about storing prescription medicines.
- Foods required for special diets or baby foods.
- A solar, hand wind-up, or battery-operated radio and flashlight in working order, with extra batteries.
- First aid kit and manual. Your local fire department, St. John Ambulance office or Canadian Red Cross chapter can advise on what items to include in your kit.
- Fire-fighting equipment to suppress small fires, including an all-purpose fire extinguisher (rated A-B-C).
- Personal hygiene supplies
- Portable heating device such as a catalytic heater using kerosene or propane. Know the hazards of using these fuels and be sure to follow the manufacturer's instructions. Always make sure there is adequate ventilation to prevent the build-up of hazardous fumes.
- See the last page of this document for a handy telephone list.

Insurance

- Insurance is readily and reasonably available for homes, and their contents; businesses, stock and equipment; farm buildings, livestock and equipment; and vehicles of all types. Check regularly with your insurance agent or broker to ensure you have appropriate and adequate insurance coverage, including any extensions in coverage that may be available, which were not previously.
- Coverage is available for most major disasters, e.g. fire, lightning strikes, an explosion, windstorm, hail, tornado and many others. Flood coverage can be added to business policies, but is not generally available for homeowners.
- Most policies include or can include coverage for damage caused by sewer back-up. Make sure your policy includes sewer back-up insurance.
- Keep a detailed inventory of your residence and/or business. Keep it in your emergency kit. It will be invaluable in the event of loss.

- Make sure your insurance policies and related records are in a safe location and easily available after an emergency or disaster event.
- The Insurance Bureau of Canada has information on all aspects of insurance. Their toll free number is 1-800-232-7475.
- Know what your insurance company requires should you need to make a claim.
- Note that government disaster recovery programs will not compensate for damage and loss for which insurance was readily and reasonably available before the disaster occurred.

How to Floodproof Your Home



Municipal governments prevent flooding by maintaining the sewage systems. If you experience drainage problems, begin by ensuring that the source of flooding is not on your property. Take steps to floodproof your home. First, learn how and why flooding occurs.

What is a Sanitary Sewer?

- A sanitary sewer is a pipe, located in the street that is designed to transport wastewater from your home. This consists of water from sanitary fixtures and floor drains inside your house, as well as groundwater from weeping tiles around the foundation of your home.

What is a Storm Sewer?

- A storm sewer is a pipe, located in the street that is designed to carry storm-related water runoff. Storm sewers are normally much larger than sanitary sewers because they are designed to carry much larger amounts of flow.

What Causes Sewer Backup?

- Extra storm-related water (from sources other than wastewater and groundwater) should flow into the storm sewer or soak slowly into the ground without entering the sanitary sewer.
- If excess storm water does enter the sanitary sewer system, it causes a supercharged sewer flow. An eight-inch (20 cm) sanitary sewer can handle wastewater from up to 500 homes; however, it takes only a few unexpected water sources to overload this kind of system.
- Sewer backup insurance is available on most homeowner policies for a small premium. Check with your insurance agent or broker. (See *Insurance* on page 4)

How Can a Supercharged Sanitary Sewer Cause Basement Flooding?

- A supercharged sewer flows at a greater than normal level. Basement flooding can occur if the home has sanitary fixtures or floor drains below the supercharged level.

Downspouts and Roof Drainage

- Most homes are equipped with downspouts which discharge the water collected by eavestroughs directly into the ground. Excess water runs into the front street where it enters the storm sewer. It is very important that this water does not enter the sanitary sewer. If your downspout drains too close to the side of your house, this water can drain into the sanitary sewer through the weeping tile adjacent to your house foundation.
- Damage or sanitary sewer surcharging can occur if rainwater drains too close to your house on ground that may not be tightly compacted. The excavation for your basement may have been dug a few feet wider on all sides to allow working room during construction of the basement walls. When this extra space was backfilled, the soil may not have been tamped down as tightly as the original soil, making it more likely to settle and trap surface water.
- Surface water soaking down to your foundation can create problems: it can damage your foundation; seep through cracks in your basement wall, causing dampness; or overload the sanitary sewer by draining through weeping tiles, causing a sewer backup.

What You Can Do to Prevent Flooding:

- Fill in any settlement next to your house.

- Redirect storm water away from your house.
- Make sure the ground slopes away from your house on all sides.
- Always keep your downspout extension in place.
- Check to see that your downspout extension drains a good distance away from your house in an area that will not erode.
- Be careful that water does not drain into your neighbour's property.
- If your downspout is connected to the weeping tile adjacent to your home, disconnect it immediately.
- If you are constructing a new home and plan to build on a slab, or install a washroom in the basement, consider taking the necessary precautions to prevent sewage and water from backing up into your house through the sanitary drains.
- You may also consider taking these precautions in an existing home, but these changes vary in complexity and cost.
- You may be able to do some "flood-proofing" tasks yourself, while other changes need a qualified contractor or tradesman.
- One aspect of flood protection involves the installation of backflow valves on toilets, floor drains, washing machine drains, rain downspouts, sump pumps and any sink drains in the basement. Main sewer lines and septic connections should also be considered. These are designed to prevent sewage and water from backing up through these waste lines. Some backflow valves operate automatically while others may have to be closed by hand.
- In most cases the backflow valves may need to be installed by a qualified plumber or contractor according to existing building codes. Be sure you understand the type of backflow valves installed, including their operation and maintenance.
- Your municipal office can advise on floodproofing in your geographic location.

Sewer Backup Protection Can Help

Talk to a qualified plumber before you install any sewer backup protection devices. Plumbing fixtures such as toilets, sinks, showers, floor drains and washing machines that are set below ground level require special protection from sewer backup. Read about the following devices and decide if they can help you.

- **Screw Cap.** If you're having trouble with your floor drains, a screw cap installed upstream of the trap seal of the floor drain may be all you require.
- **A Canadian Standards Approval (CSA) Inline Sewer Backwater Valve** should prevent sewer backup if you maintain it properly and have it checked regularly. Your plumber can provide you details on maintenance.
- **A Gate Valve.** Where a backwater valve isn't sufficient protection, you may need a gate valve and a backwater valve for basement plumbing fixtures that are subject to backflow.
- **Sewer Backup Insurance.** This insurance is available on most policies for a small premium. Check with your insurance agent or broker. (See *Insurance* on page 4)

Flood Watch/Warning

You can greatly reduce your risk of damage or loss if you take the following precautions at the first warning of flood.

Personal and Family Safety

- Listen to the radio for the latest storm information
- Be prepared to evacuate (see *Develop a Family Emergency Plan* on page 3)

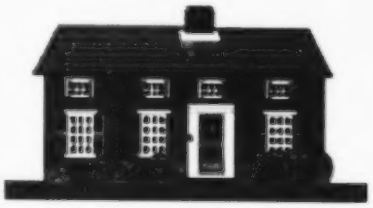
Preparing to Evacuate

- Prepare a list of family members' prescribed medications including generic names and prescribed dosage. Also, list the name and telephone numbers of your doctors. For those who rely on medical devices such as a pacemaker, the style, serial number, and other pertinent information should be carried with you at all times.
- Collect all vital family records kept at your home, such as mortgage papers, medical records, insurance policies, marriage and birth certificates, passports, wills, stock and bond certificates, tax records, and other irreplaceable items (photographs, heirlooms) in one central location where they can easily be transported if you must leave the area quickly. Keep them in a waterproof and fireproof container.
- Ensure that you have a portable solar, hand wind-up, or battery-operated radio and spare batteries. Listen to the radio for flood advisories and warnings and follow instructions from your local government.
- Have a full tank of fuel in your vehicle. An electrical outage due to flooding may shut down service station pumps. If you don't have personal transportation, make alternative arrangements with a neighbour.

- Stock up on food that requires little or no cooking or refrigeration, and gather emergency lighting and cooking equipment such as flashlights, gas lights, candles, camp stoves, spare batteries, fuel and waterproof matches. Ensure fuel is stored and handled properly. Keep this gear operational and within easy reach. (see *Develop a Family Emergency Plan* on page 3)
- Know how to use the manual override of your garage door. Have an emergency key release if your garage door is the only access and exit to your home. Perform a manual operation safety test regularly.
- Store water in clean containers. The water supply may be contaminated before it becomes necessary to evacuate.
- Decide what basic supplies your family requires and stock up immediately. Pack supplies in waterproof containers or plastic garbage bags. Essentials include:
  - warm clothing and waterproof rubber boots
  - rain coats
  - blankets or sleeping bags in sealed plastic bags
  - prescription medicines and first-aid supplies
  - personal identification for each family member (name tags and wallet cards
  - towels, soap, personal hygiene and toiletry items

Protecting Your Home

Take special note of the preparations you must take to protect your home and major electrical and gas-fired appliances.



- Know where to obtain sandbags, plywood, plastic sheeting and lumber to protect your house.
- Remove whichever household effects you can. If this is not possible, move
- Seal hazardous materials such as weed killers and insecticides in plastic garbage possessions from the basement to an upper floor, bags, and move them into safe storage or dispose of them safely.

Electrical Appliances

- At the first warning turn off electrical power and leave it off. If the basement is already wet, **be cautious.** If you are confident that you can do it safely, stand on a dry wooden chair or box and use a dry board or stick to turn off the main switch.
- Water usually ruins electrical motors. Move all portable electric heaters, power tools and electrical appliances to a safe place.
- If this isn't possible, and if you are qualified to do so, consider removing the motors, controls and switches from furnaces, refrigerators and washers.
- If you can, consider moving all thermally insulated appliances such as freezers and refrigerators to upper floors of the house. This precaution should save you the expense of replacing insulation if it gets wet.

Gas-fired Appliances

- At the first warning of flooding, turn off all gas-fired appliances and put out the pilot light. Then turn off the gas inlet valve to your home, which is located at the gas meter. This will prevent gas from escaping when the inlet valve is re-opened, in the event that any burner controls had been accidentally been left open.
- Do not remove any gas-fired appliances without ensuring that the main gas inlet valve has been closed.
- **There should be no smoking or open flames of any kind in the area**. To avoid causing sparks, use a flashlight taped in the "on" position.
- For a forced air furnace, move the fan motor and fan to a dry storage place if possible.
- Do not drain the hot water tank — it will serve as ballast to secure the tank in place.
- If gas appliances are removed, the gas outlets should be made tight by means of a plugged valve, a cap, or a plug on the piping system.

Plumbing

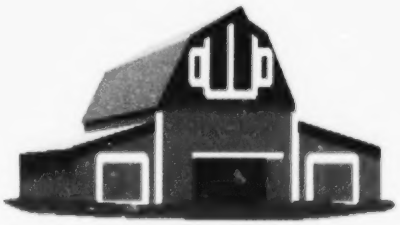
- Remove any basement toilet bowls. Plug these outlets and all other basement outlets, such as floor drains, sinks, laundry drains, etc., to prevent floodwater from entering them.
- Use wooden plugs or beanbags and secure these outlets with plank braces nailed securely to floor joists.

Fuel Tanks

- Anchor propane tanks to keep them from moving, even if they are full.
- Turn off the tank valve.
- Disconnect the tubing and seal the end.

- Secure the tank with heavy rope or chain, i.e., something heavy enough to resist the force of floodwaters.

Protecting Farms Businesses



Equipment

- Move threatened machinery to high ground if possible.
- If machinery becomes submerged, extensive maintenance or repairs may be required.

Grains and Feeds

- Move to higher ground.
- Floodwaters can cause chemical and bacterial contamination of grain and livestock feed.

Insurance

- Insurance is readily and reasonably available for homes, and their contents; businesses, stock and equipment; farm buildings, livestock and equipment; and vehicles of all types. Check regularly with your insurance agent or broker to ensure you have appropriate and adequate insurance coverage, including any extensions in coverage that may be available, which were not previously.
- Coverage is available for most major disasters, e.g. fire, lightning strikes, an explosion, windstorm, hail, tornado and many others. Flood coverage can be added to business policies, but is not generally available for homeowners.
- Coverage is available for production loss of crops due to natural perils. Contact Agriculture Financial Services Corporation (AFSC) at 1-800-396-0215 for more information.
- Most policies include or can include coverage for damage caused by sewer back-up. Make sure your policy includes sewer back-up insurance.
- Keep a detailed inventory of your residence and/or business. Keep it in your emergency kit. It will be invaluable in the event of loss.
- Make sure your insurance policies and related records are in a safe location and easily available after an emergency or disaster event.
- The Insurance Bureau of Canada has information on all aspects of insurance. Their toll free number is 1-800-232-7475.
- Know what your insurance company requires should you need to make a claim.
- Note that government disaster recovery programs will not compensate for damage and loss for which insurance was readily and reasonably available before the disaster occurred.

Livestock

- Move livestock to a safe place.
- Be sure feed and water can be provided at the new location. If livestock are left to fend for themselves, they may become isolated without food.

Stored Chemicals

- Move chemicals to high ground and safe storage.
- Chemicals can contaminate your drinking water and you could be liable for contaminating the property of others.

Water Wells

- Sandbagging or some other form of protection to prevent flooding and contamination of the well should be considered.
- If a well is contaminated, water should be sampled and tested before being used for human consumption.

Sandbagging

- Using sandbags to build a dyke is a practical way to combat flooding. There are several ways to build a dyke but not all are effective, quick and easy.
- Contact your municipal office for information on sandbagging.

WHAT TO DO DURING A FLOOD

- Listen to your radio. Important instructions for your safety and information on the situation will be broadcast on local stations.

- If you are requested to leave the area, do so immediately and follow instructions issued by your municipal officials.
- Remember your neighbours, particularly the elderly. They may need your help or the assistance of municipal emergency services.
- Stay out of the flooded area until the municipal authority gives permission to return.
- Barricades are placed on roads for your protection. If you encounter a barricade, go another way.
- Avoid standing water. It may be electrically charged from ground or downed power lines.
- Do not attempt to drive over a flooded road. You could be stranded. Floodwaters can conceal debris or areas where the road has eroded. The ground underneath will probably be slippery.
- Watch for damaged roads, loose or downed wires and fallen objects on the road.
- **Do not drive through water unless you are certain the road is safe and the water is no higher than the wheels of your vehicle.** Proceed slowly to avoid splashing water on the engine and stalling it. When emerging from water, drive carefully because wet brakes do not work well.
- If your car stalls in rising waters, get out immediately and make your way to higher ground.
- Do not attempt to cross a flowing stream. You can be swept off your feet by only 15 centimetres (6 inches) of moving water.
- Whether in a car or on foot, avoid areas prone to flash flooding.
- Do not phone the disaster services office, police or fire department unless you need help or are calling on behalf of others requiring assistance. Your radio will keep you informed.
- Do not attempt search and rescue operations on your own.

WHAT TO DO AFTER FLOODING

After a flood, your municipal government will notify the public through the media when it is safe to return home. The following are some important tips to help you clean up and restore your property. If you require more specific information on cleanup, contact your municipal office or your local health unit (Regional Health Authority). Let your insurance agent or broker know as soon as possible about any loss or damage. If you are a tenant, inform your landlord about any flood damage to the property.

Food Establishments

- Notify your Regional Health Authority for direction, if you own or manage a food establishment.

Protecting Yourself and Your Family

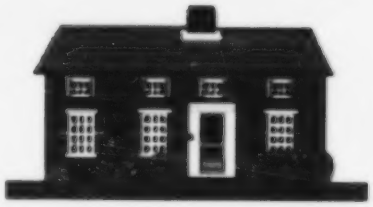
Floodwater may be contaminated with sewage and other contaminants, and could pose a health hazard. Proper clean up is essential. Contact your local health unit if you suspect sewage contamination. Be sure to comply with their recommendations about using respirators, special clothing, or other protective measures. Do not try to save carpets, clothing or bedding that have been exposed to sewage. Sewage contaminated waste materials should be placed in heavy-duty garbage bags and tagged. Follow your municipality's instructions for disposal.

- Do not allow children into the house or yard until everything has been cleaned and disinfected. If children must be present during clean up, supervise them closely.
- Wear rubber boots, rubber gloves and eye protectors to prevent injuries.
- Be vigilant about good personal hygiene, i.e., wash face and hands with soap before eating, drinking or smoking.
- Check your newspaper and listen to your local radio or television stations for information about help that may be provided by your municipal or the provincial government, your Regional Health Authority or other agencies.
- Prompt action will help to prevent mold. Try to get all wet surfaces clean, disinfected and dry as soon as possible. *(see Disinfectants on page 16)*.
- Cleanup priorities include:
  - Removing water as soon as possible
  - Clean out mud and other debris
  - Discarding all materials that cannot be saved. Place them in a bag, tag the bag(s), and dispose of them according to municipal regulations
  - Wash and rinse all fabrics and furniture that will be sent out for cleaning, then dry and take them to the cleaners as soon as possible
  - Wash and rinse all surfaces, then disinfect them
- A flood disaster is both mentally and physically stressful. Take steps so that you and your family maintain their health:
  - Rest often and eat properly
  - Make a list of jobs that need to be done and do them in the order of priority, one at a time
  - Talk to others about your concerns and don't be afraid to ask for help
  - Check your newspaper and listen to your local radio or television stations for information and help from your municipal government and or your Regional Health Authority on coping with the emotional effects of a disaster.
- Before hiring clean up or repair contractors, make sure they are qualified to do the job. Check to ensure they have a business licence. Get at least three written estimates, outlining the work that needs to be done, the total cost, and the starting and completion dates. Ask for references and check them out.

Insurance Claims

- Inform your insurance company as soon as possible about any damage to your property or vehicles.
- Obtain receipts for any emergency repairs or for clean-ups that are needed to prevent or minimize further damage to your property.
- Photograph and/or video tape the damage to support a possible insurance claim.
- The Insurance Bureau of Canada provides information about insurance claims. Their toll free number is 1-800-232-7475.

Returning Home



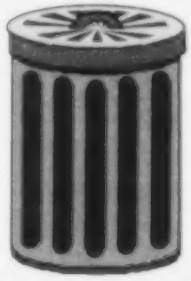
As soon as floodwaters have receded and you have been notified that the flood danger is over, you will want to return to your house and start cleaning up. Do not attempt to live in the house, however, until you take the following precautions:

- Have the electric power system checked by an electrician.
- Have natural gas and propane appliances checked by a gas fitter.
- The water supply has been declared safe for drinking.
- Your sanitation facilities are working.
- All flood-contaminated rooms have been cleaned and disinfected.

Entering Your Home

- Make sure the building is safe before entering. Check for foundation damage and make sure all porch roofs, and overhangs have their supports intact. If you see damage contact a building inspector.
- If you see downed power lines or smell gas, leave the building and contact your utility company.
- If your basement was flooded, do not switch on the electricity until a qualified electrician has checked the complete system.
- Buildings with extensive damage to walls and clay basements require inspection by the building inspector.
- Be very careful when you enter the building. A door sticking at the top could mean that the ceiling is ready to fall. **If you have to force the door open, make sure you stand outside, well clear of any falling debris.**
- Look for wet plaster on the ceiling. Knock it down with a stick before moving around.
- Use a flashlight to inspect for damage inside the house. Do not strike a match or use an open flame unless you know the gas has been turned off and the area has been ventilated.
- Watch your step. The floors and stairs can be very slippery, and silt on a basement floor may conceal nails or broken glass.
- Open all doors and windows to dry out the building.

Starting the Clean-up



- Pump out the basement when it is safe to do so. If water has been standing for some time, is visibly cloudy, and or has a foul smell, it is likely polluted and requires urgent treatment and removal. Pumps, wet dry vacuums, and dehumidifiers may be available to rent. To hire a professional service, look in the telephone directory Yellow Pages under "Water Damage Restoration Services."
- Move your belongings out of the wet area. Clean and then spread out to dry.
- If your home was flooded by sewage, discard exposed carpets, clothing, bedding and stuffed toys. Place these items and any other items you do not want to keep in heavy-duty garbage bags for disposal.
- Remove all mud and debris by scraping and washing with detergent, using a stiff broom or brush. This may be contaminated material and may need to be properly disposed of. Follow your municipality's instructions for disposal.
- Never leave waste on the ground where children are at risk and insects or animals could pick up disease-causing organisms.
- Disinfect all walls, floors, ceilings and fixtures after they have dried. Make your own disinfecting solution by adding 125 millilitres (a half-cup) of household bleach to 9 litres (2 gallons) of water or use a commercial disinfectant according to directions. Rinse metals after washing with a chlorine solution to prevent corrosion. Coat cast-iron items with vegetable oil to prevent rusting. (See *Disinfectants* on page 16)
- **DO NOT use gas-powered generators, camping stoves or charcoal barbecues indoors**. The fumes are hazardous indoors.

Restoring Water Supply

- Water must be boiled or chlorinated before use until flooded and contaminated wells, cisterns, dugouts and dams have been treated and water samples analyzed as safe by your health unit (Regional Health Authority).
- Until well and cistern water is made safe, disinfect available water according to the following table. Add the solution to the water, thoroughly mix and allow to stand for 30 minutes. The water should have a slight chlorine taste. If this taste isn't present, repeat the dosage and allow to stand for another 30 minutes.

Emergency Water Disinfection

Litres/gallons of water to be treated	Dosage of disinfecting compounds	
	CHLORINE BLEACH DROPS	WATER PURIFICATION TABLETS
(clear water) 4.5 L (1 gal.)	4	Follow directions on bottle
(cloudy water) 4.5 L (1 gal.)	10	Follow directions on bottle

Cisterns

Cisterns must be emptied, thoroughly cleaned, and refilled with chlorinated water. The following procedure should be used to get a cistern back into service:

- Remove all mud, cleaning the cistern thoroughly with broom or brush.
- Disinfect with a concentrated solution of chlorine bleach: 450 millilitres (2 cups) to 450 litres (100 gallons) of water.
- Pump a thoroughly mixed, concentrate solution of chlorine bleach through the system. Then close all outlets and allow the solution to remain in the system for eight hours.
- Thoroughly rinse the whole system with disinfected water. The odour of chlorine must disappear completely. This step is essential because chlorine can corrode metal pipes and tanks.

Dugouts and Dams

Follow this procedure to put a dugout back in service:

- Pump out and remove sludge and debris.
- Make any repairs required.
- Refill the dugout.
- Consider installing a continuous chlorination-filtration system. Technical advice and information may be obtained from your Alberta Agriculture, Food and Rural Development district office.

Plumbing

- During a flood, the water pressure in plumbing lines can reverse, and water in hot and cold pipes can be contaminated with floodwater. Have a plumber inject bleach into the lines to disinfect them
- The footing drains outside your foundations may have been overloaded or blocked during the flooding. Have them checked by someone trained in plumbing and drains.
- Floor drains may be partially or fully blocked because of the flooding. Carefully flush, clean and disinfect floor drains and sump pumps.

Wells

Wells must be thoroughly pumped out and inflow water chlorinated. This procedure should not be attempted on shallow wells until at least two weeks after floodwaters have receded. Otherwise, they may be re-contaminated by polluted ground water.

Use the following procedure for getting a well back into service:

- Pump out the well.

- Thoroughly clean bored or dug wells. Remove floating debris and scrub or hose foreign material from well cribbing or casing. Then pump the well until water is clear.
- Pump 900 litres (200 gallons) of water into clean storage near the well.
- Pour 9 litres (2 gallons) of household laundry bleach (5.25 per cent chlorine) into well. You can get an equivalent strength of chlorine by substituting 4.5 litres (1 gallon) sodium hypochlorite (12 *per cent chlorine) or 0.6 kilograms (22 ounces) by weight* of calcium hypochlorite (70 per cent chlorine.)
- Allow water to return to the non-pumping level in the well.
- Mix 9 litres (2 gallons) of household laundry bleach into the 900 litres (200 gallons) of water stored near the well and syphon the mixture into the well.
- Open each hydrant, faucet and other outlet in the distribution system and let it run until water at the outlet has a chlorine odour.
- Allow chlorine mixture to stand in the entire distribution system at least eight hours, preferably overnight.
- After the chlorine mixture has been in the system for at least eight hours, open an outside tap and let the mixture run onto the ground surface until all chlorine odours has disappeared. In high capacity wells it may be necessary to add enough clean water to the well during pumping to displace the water stored above the pump intake.
- Backwash all filters and softeners and flush the hot water tank.
- If the wastewater has a chlorine odour and you have difficulty removing the chlorine from the well, it indicates that too much chlorine was used. When the correct quantity of chlorine is used, the wastewater will have a chlorine odour, but the odour will disappear after the well has been pumped continuously for two to three hours.
- Don't pump the wastewater into the septic tank. It will impair operation and cause flooding.
- After you have followed these procedures, obtain a sterile water-testing bottle from your local health unit and return a well water sample for analysis. Do not use the well water without first disinfecting it and until you have been notified that the water sample is safe.

Restoring Sewage System

A house should not be re-occupied until satisfactory toilet facilities have been restored. Solid or liquid wastes must never be deposited on the ground where insects and animals can pick up and spread disease-causing organisms.

Insect Control

- For advice on insect control, contact your local health unit (Regional Health Authority) or a professional pest control company.

Municipal Sewers

- Householders will be notified when the municipal sewage system has been restored.

Outhouses (Pit Privies)

- Ensure that the outhouse is securely over the pit.
- If water remains in the pit, add ½ litre (2 cups) of household laundry bleach or 0.45 kilogram (1 lb.) of chloride or lime every week until the water disappears.
- If the outhouse has been washed away, cover open pits to prevent accidents and the spread of disease, until it can be replaced.

Septic Tanks

- Septic tanks won't operate until the disposal (leaching) field has dried. Check the syphon pumping chamber (second compartment) to ensure that the intake of the syphon or pump is not blocked.
- **NEVER enter a septic tank to check out a pump or syphon system without being protected by a certified air pack and a safety harness with rope. The atmosphere in a septic tank can be lethal causing death without the use of proper safety equipment. At least one observer must be present when anyone enters a septic tank. This is for safety reasons and for quick removal of a person from the tank if anything should happen to cause a dangerous situation.**

Yard Clean-up

- Follow your municipality's instructions for disposal of contaminated and other materials.
- Locate garbage for collection by municipal services at a safe distance from the home and downgrade of a well.
- Make sure that materials that attract insects or animals are sealed in animal-proof containers.

Restoring the Heating System

Before starting up the heating system, protect yourself against the hazards of fire, suffocation and explosion. Be careful to take all precautions to ensure the heating system is safe before resuming use. Have it inspected by a qualified technician.

Coal/Wood Stoves/Furnaces

- Before lighting the furnace, examine the inside of the combustion chamber and clean it thoroughly.
- Wash sediment from all pipes and ducts with a hose or a swab on a long stick. Access can usually be made through the clean-out door above the fire door. If the heater has a jacket, clean between the heater and the outside casing.
- Ensure that the chimney isn't plugged. Take the smoke pipe out of the chimney and remove any mud from the lower part of the chimney.
- Have the heating system checked by a qualified technician before using it again.

Duct Work

- Hire a contractor to clean and inspect ductwork.

Gas Furnaces/Appliances

Do not touch any electrical fixtures or switches. If the odour of gas is present, leave the building immediately, leaving the doors open. Contact the gas utility company. **Do not re-enter the building until the leak has been repaired.**

- When it is safe to clean gas appliances:
  - Disconnect the vent connectors from appliances and clean thoroughly.
  - Open the clean-out door at the base of the chimney and clean it thoroughly, removing mud and debris.
- Remove and clean any fan assemblies that have gotten wet. If any electric motor has been wet, have it checked by an electrician. It may be dangerous to use.
- Do not touch any gas controls or attempt to reconnect gas appliances. The system must be checked by a licensed gasfitter before being put back into service.
- Have propane systems checked by a licensed gasfitter before turning them on.

Water Heaters

- Water heaters are insulated with glass fibre, which can become soggy and saturated under its cover if flooded. If the appliance can be repaired, have the insulation replaced, as it is contaminated by the floodwaters.

Restoring Electrical Appliances

- If the electrical panel was submerged, have a qualified electrician replace all circuit breakers.
- An electrician should check all electrical appliances that got wet by the floodwaters before being used.
- Depending on the depth of water in which the appliance was submerged, it may be less costly to replace rather than repair appliances.
- Appliances with foam insulation, such as ovens, refrigerators, and freezers that were submerged in floodwater, may have to be discarded because they cannot be disinfected. Check with an experienced serviceperson as to whether or not it is possible to remove and replace the insulation.
- All lighting fixtures that were submerged in water should be removed, cleaned and dried, and checked. Clean outlet boxes, wiring and sockets but do not remove connections or disconnect wiring. Connections in wiring and lights and small appliances can be wet and soggy even after the cover tape looks dry. Be sure they are dry before using. If you have any doubt about appliances or wiring, contact your electrician.

MAKE SURE THE POWER SUPPLY IS TURNED OFF BEFORE WORKING ON OUTLETS AND FIXTURES.

- Floor and table lamps should be completely disassembled, cleaned and dried thoroughly, before using.
- Extension cords that are not in good condition should be discarded.

Restoring the Interior of Your House

Bedding and Clothing

- Discard mattresses, box springs, pillows and comforters that were soaked with flood waters. They cannot be adequately disinfected and cleaned.
- Have wool, silk and rayon clothes dry-cleaned as soon as possible.
- Remove mud from remaining clothes and bedding by rinsing in cold water. Then wash in warm soapy water, adding a disinfectant at the end of the washing cycle.
- Cotton and linen fabrics soiled with red or yellow clay require special treatment. Do not immerse them in hot, soapy water or the stains will set. Brush off all loose dirt and rinse until no more dirt can be removed. Then wash in **warm** soapy water, using several washings if necessary. Add disinfectant at the end of the washing cycle, but be careful when bleaching coloured materials. Test a small section of a seam with the solution.
- Mildew stains are caused by a fungus growth. Remove light stains on cotton or linen with lemon juice or household bleach.

Books and Paper Goods

- It may not be possible to salvage books and other paper goods that have been saturated by floodwaters. Paper that is kept together in a wet state for several days may meld into a solid mass and become unsalvageable.
- If you have important or valuable books you wish to restore:
  - Hold book closed when rinsing
  - If the book is partially wet or damp; stand book on the top or bottom edge with covers open at a 90? angle and air dry.
  - If a book is very wet: lay it flat on a clean surface; interleave less than 20 per cent of book with absorbent material; replace interleaving when it becomes damp
  - After pages have been exposed to the air for a while, press them to prevent crumbling.
  - Alternate drying and pressing until the pages are thoroughly dry, otherwise mildew will result.
  - Avoid drying books too long in full sun as this can damage the bindings.
- If you have too many books to air dry in 24 hours:
  - Rinse off dirt, towel dry by blotting (not rubbing)
  - Wrap books loosely in freezer or waxed paper
  - Pack spine down in sturdy containers,
  - Freeze
- Air dry paper documents in small piles about half an inch high.
  - Interleave: replace interleaving with dry sheets when it becomes damp
  - If there too many items for air-drying interleave (by groups or individually) with freezer or waxed paper, pack carefully in sturdy containers and freeze.
- Make every attempt to clean and save legal documents and other valuable papers, as this is less costly than paying to replace them. If mold damage has occurred, or the document is becoming distorted, focus on saving the information:

- Have true copies notarized. The damaged originals can then be destroyed and the certified copies preserved. Check with a lawyer to determine which documents can be saved in this way.
- Birth records, passports and other government documents can be replaced and the damaged versions destroyed. Check with your local government offices to find out which documents can be replaced in this way.
- Large documents, such as maps, can be preserved by passing them through hot rollers at a copy shop that makes blueprints. This must be done before the paper dries.

Ceilings

- If the ceiling has mold growth, treat it with a full strength bleach solution, but be sure to check the source of the problem and also the condition of the insulation.
- Carefully clean ceilings that are only surface damp, to ensure that a thin film of mold did not grow when the air was very wet or muggy. Use a chlorine bleach solution (see *Disinfectants* on page 16)
- Ceilings above the high-water mark may be dry and undamaged, but should still be checked as water can wick upward and along wall materials, saturating ceilings. Clean and disinfect after checking.

Cement Structures and Surfaces

- If necessary, pump out the basement when it is safe to do so. Be aware that the water may be contaminated and should be disposed of according to your municipality's instructions.
- Use a wet dry vacuum to remove all mud, dirt and other debris from cement walls and floors of your home. A vacuum with a HEPA (High Efficiency Particulate Arrestance) filter is recommended to reduce the distribution of respirable contaminants throughout the home.
- To clean and disinfect cement surfaces use a solution of water and tri-sodium phosphate (TSP). Follow the manufacturer's instructions for preparing and using the solution. Ensure this solution covers all the cement surfaces.

Cleaning Materials

- Use laundry detergent for general cleaning and dishwashing liquid for removing dirt from lightly soiled material and surfaces. Rinse off any residue because too much soap or detergent can leave a film on surfaces. Use warm, not hot water, for washing, as hot water can set stains from contaminants that were in the floodwater.
- Use chlorine bleach for disinfecting surfaces and materials that are bleach tolerant (see *Disinfectants* on page 16).
- Keep the area well ventilated as cleaning products can affect the lungs and skin.

Cupboards and Counters

- All surfaces of counters and cupboards must be thoroughly cleaned and disinfected.

Dishes, Cutlery and Utensils

- Thoroughly wash all contaminated dishes, cutlery and utensils, then sterilize by immersing them in boiling water or a disinfecting solution such as one (1) part household chlorine bleach to three (3) parts water, or a commercial product as per the manufacturer's instructions, for ten minutes. Alternatively, the dishes can be washed in a dishwasher using very hot water.
- To prevent rusting, coat cast iron utensils with vegetable oil before putting them away.
- Clean brass and copper with a recommended cleaner. Wash with warm soapy water and dry.

Disinfectants

- Household liquid chlorine bleach (5 per cent sodium hypochlorite solution) is an effective disinfectant for most bacteria and fungi (like mold). Use bleach carefully and be sure you have cross ventilation.
  - Surfaces and structures with mold growth - use full strength household bleach and let it remain on the surface for 15 minutes.
  - For surfaces (not cement), structures, dishes, cutlery and utensils where no mold is visible - use one (1) part bleach to three (3) parts water.
  - Bleach can destroy organic fabrics so do not use on silk and wool items. It can also weaken cotton fibres so use with care.
  - Bleach can affect the colours of many surfaces and materials. Test on a small area before using.
  - **Never mix bleach with ammonia. The fumes produced together are very toxic.**
- For cleaning and disinfecting cement structures see *Cement Structures and Surfaces* on page 16

- For wooden surfaces which could be damaged by a bleach solution - use a 5 to 10 percent borax solution with dishwashing detergent, then next day wash with a one (1) part vinegar to three (3) part water solution and then rinse.

Doors, Windows and Woodwork

- Remove all doorknobs before cleaning, disinfecting and drying doors.
- Lay doors on a level surface with wooden strips separating them. This will permit level drying with minimal warping.
- Disassemble and clean locks. Wipe working parts with kerosene and then oil them sparingly to prevent dripping.
- Door and window frames should be checked for warping and twisting and repaired if necessary.
- Sliding windows should be removed and both the windows and the track cleaned and disinfected.
- Sliding or bifold doors should be removed and both the door and tracks cleaned and disinfected.
- Do not paint and redecorate until everything is completely dry or your efforts will be wasted.

Electronic Equipment

- Computers, radios, stereos and televisions that have been under water may be unsalvageable. Check with your local electronics repair shop.
- Wear gloves when handling diskettes and compact disks to avoid scratching the surfaces.
- Do not use magnetized tools/scissors.
- Bathe compact disks and diskettes in clean, distilled water, dry with lint-free towels.
- When copying the disks, clean drive heads frequently to protect equipment.

Floors

- Plywood and particleboard subfloors are usually not recoverable after having been submerged in water. They are constructed with non-waterproof glues that separate when in contact with water.
- Basement subfloors may need to be removed to allow thorough cleaning, disinfecting and drying. Otherwise mold growth and odours will persist. Floors laid on concrete must be opened at both ends and warm air forced between joints to dry both the wood and the concrete. If odours persist after drying, the floor may have to be removed.
- Remove wet carpets and other sponge-like materials off floors as soon as possible, so that the floor does not start to distort or delaminate.
- Clean and disinfect floors and allow to dry at normal temperature.
- Buckled floors. Soaked wood floors, especially hardwood, will likely buckle. Restore them as follows:
  - Clean and disinfect, and allow to dry at normal temperature.
  - Don't attempt repairs of wooden floors until they are thoroughly dried out.
  - When the floors are dry, draw back some of the buckling boards with nails. Plane or sand down small humps. Salvaged floors will be marred but may serve as a base for new covering.
  - Hardwood floors are somewhat difficult to repair. It may be possible to draw some of the buckled boards back with nails. Small humps may be removed by planning or sanding. If warped badly, the floor may have to be replaced.
  - Tongue and groove sub-floors may buckle or warp as a result of being soaked. Usually applying additional nails or screws to the buckled areas can repair this.
- Linoleum or vinyl tiles may be loosened or damaged by moisture. Consult a floor contractor to determine if the damage can be repaired.

Foods

Flood waters carry disease from raw sewage. The only safe flood-exposed foods are those in sealed metal cans, and even then, only if cans have not been dented. Use the following procedures with foods:

- Thoroughly clean all undamaged cans before opening. Use a brush to clean around the rims and caps. Disinfect, rinse and dry before storing. (See *Disinfectants* on page 16).
- Dispose of the following items:
  - the contents of your freezer or refrigerator, if electricity has been interrupted and contents thawed, or if appliances have been exposed to flood waters.
  - all exposed meats
  - all exposed fresh fruits and vegetables
  - all exposed boxed foods
  - all products in jars, including home preserves, cans and bottles that have been under water. The area under the seal of a jar or bottle cannot be adequately disinfected

  - products in coolers, if the coolers have been without power for four (4) hours
  - all exposed medicines, cosmetics and other personal care items
- If in doubt about any items, contact your local health unit (Regional Health Authority).

Framed Artwork

- Remove paintings from frames in a safe, dry place. DO NOT separate paintings from their stretchers.
- Keep wet paintings horizontal; paint side up with nothing touching the surface. Avoid direct sunlight.
- Remove art on paper or photographs with glass fronts from frames.
- If art sticks to glass, leave it in the frame and dry with glass side down.
- Always dry artwork slowly, image side up with nothing touching the surface.

Furniture - Metal

- Wash with clean, soapy water and then disinfect with bleach solution. Rinse and dry.
- Put foil or something similar under legs, until completely dry, to prevent furniture from staining the floor.

Furniture - Upholstered

- Rinse off mud
- Chairs, chesterfields, sofas which have metal or wooden frames can be salvaged but the covering, stuffing and padding must be discarded,
- Mildewed upholstery:
  - Brush off loose mold with a brush or broom. Do this outdoors to avoid spreading mildew spores around the house.
  - Vacuum to remove more mold.
  - If mildew remains, sponge lightly with soap or detergent suds or a 50-50 solution of rubbing alcohol and water. Be careful not to get the padding wet.
  - Thoroughly dry the item by using an electric heater, a fan or the sun to stop further growth of molds.
  - If the upholstery has been soaked with floodwater, consider discarding the piece or sending it to a commercial shop for thorough disinfecting, cleaning and reupholstering.
- It may not be possible to clean furniture contaminated with sewage or other organic materials. You must act promptly if you want to salvage the furniture. Be sure to let the furniture restorers know the item was exposed to sewage.
- The cost to repair upholstered furniture may be greater than the replacement cost.

Furniture - Wood

- Remove all furniture to a sheltered area outdoors.
- Wipe off surface moisture because wood deteriorates quickly.
- Remove all drawers, slides and other working parts. Do not attempt to force drawers by prying them from the front. Instead, remove the back of the piece, cutting it out, if necessary, and push the drawers out.
- Clean all furniture and rinse with a mild disinfectant (caution - test a small area to ensure disinfectant will not damage wood finish).
- Clean the drawers and take them indoors, storing them away from heat to allow slow drying.
- To clean furniture damaged by high humidity, use a cloth dampened with ammonia, spirits of camphor or essence of peppermint. Apply to white spots or scum on varnished surfaces and immediately wipe dry. Then apply furniture wax or polish.
- Dry furniture slowly so that warping and twisting is reduced (do not leave in sun).
- Have veneered furniture professionally repaired.
- Furniture made of particleboard or veneers laminated on particleboard generally cannot be restored as these materials swell or separate beyond repair, or the cost to repair may be greater than the replacement cost.

Garden Produce

- Discard aboveground produce that was exposed to flood waters. Aboveground produce that was not exposed to flood waters should be harvested carefully to avoid contamination.
- Leave belowground produce in the soil to reduce soil contamination through natural processes such as sunlight.
- When harvesting, wash belowground produce thoroughly, preferably in a one-part bleach to 10 parts water solution. Rinse before cooking.
- Do not eat harvested produce raw.

Insulation

- Fibrous insulation materials, such as glass fibre, mineral wool and cellulose, lose their insulation capabilities when flooded and will have to be discarded. These materials also trap pollutants from the floodwaters, and can become moldy.
- Board insulation, such as styrofoam and urethane, can also become saturated. Unless you are sure that water and dirt is not trapped behind these materials, it is safest to remove and replace them.
- Always remove the insulation to well above the obvious high-water mark, and then clean, disinfect and dry the wall cavities to prevent mold and other problems developing.
- Re-insulate with new material once the wall cavity materials are thoroughly dry.

Leather

- Clean with a damp cloth, then buff with a dry cloth.
- Stuff purses and shoes with newspaper to retain their shape.
- Leave suitcases open to dry out.
- Keep leather goods away from heat or direct sunlight while drying.
- Clean with saddle soap when dry. Use a suede brush or steel wool on suede.
- Rinse leather and suede garments in cold water and dry them away from heat or direct sunlight.

Photographs

- Remove from enclosures or frames.
- Carefully rinse with cool, clean water as necessary.
- Do not touch or blot surfaces.
- Air dry: hang with clips on non-image area, or lay flat on absorbent paper. Keep photographs from contact with adjacent surfaces or each other.
- If there are too many photographs to air dry in 48 hours:
  - Keep photographs in a container or clean water no more than 48 hours,
  - Freeze. If possible, interleave each photo with freezer or waxed paper.
- Do not freeze glass plate negatives.

Rugs and Carpets

- Rugs and carpets must be restored as soon as possible to prevent mildew.
- Use a wet dry vacuum to remove as much water as possible. Then clean and **disinfect** with a commercial rug shampoo containing disinfectant. Make sure the disinfectant will not discolor the fabric. Dry carpets as quickly as possible; a fan will help.
- Glued-down rugs and carpets may have to be destroyed if submerged in floodwaters, as the water usually deteriorates the rug glues and backing. If attempting to salvage them, remove as much water you can (use a wet dry vacuum), and dry by using a dehumidifier and large fans to blow air over the surface of the carpet.
- For carpets with underpads, remove as much water as possible. Pull back the carpet gently. You may have to remove the baseboards that hold the carpet in place. Remove the carpet and hang it to dry. The under pad may need to be replaced.

Sandboxes

- The sand should be disinfected or removed and replaced.

Toys

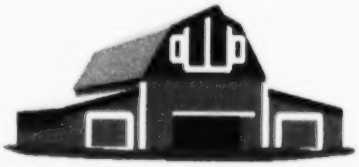
- Discard stuffed toys that were exposed to sewage or take them to a professional cleaner.
- Clean plastic and metal toys with clean soapy water and a disinfectant.
- Toy clothing should be treated the same way as household clothing and bedding.

Walls and Wallpaper

- Gyproc walls swell when in contact with water and have to be replaced. Cut off the gyproc above the water line to allow the wall cavity to dry, and to prevent the gyproc from wicking water further up the wall.
- Some wall finishes, such as wood and paneling, may be salvageable if removed and properly dried.
- If water enters the wall cavity, the wall finish and insulation should be removed to prevent mold and to allow the wall cavity and framing to dry thoroughly. It can take days or weeks for wooden studding to dry.

- Although walls constructed of gyproc, plaster or wood will dry out in time, the insulation in these walls is no longer effective. As insulation becomes soaked, the weight causes it to settle and compact at the bottom, leaving the upper area of the wall without insulation.
- If you are sure the interior of the walls are not wet, then wash with a detergent and bleach solution and dry.
- All walls in a flooded home should be cleaned and disinfected as the exposure to excessive humidity can cause mold growth.
- Don't wash damp plaster; it must be dry before it can be cleaned.
- You will probably have to replace wallpaper unless it is washable.

Restoring the Farm Business



- Alberta Agriculture, Food and Rural Development (AAFRD) is currently working on a Disaster Guide for Farmers covering preparedness, response and recovery information for all disasters. The guide will be available in the fall of 1998 through any Alberta Agriculture District Office and on **Ropin' the Web**. AAFRD's web site http://www.agric.gov.ab.ca
- Farmers needing information before that time should contact department specialists at any Alberta Agriculture District Office or by calling Dale Dowswell, AAFRD Emergency Planning Officer in Edmonton at (403) 427-3144 or toll free at 310-0000, then dial 427-3144.

References

- Alberta Agriculture, Food and Rural Development internet page: http://www.agric.gov.ab.ca/
- Alberta Health internet page: http://www.health.gov.ab.ca
- Emergency Management Alberta internet page: http://www.gov.ab.ca/ma/
- *Cleaning up Your House After a Flood.* NHA 6789. Canadian Mortgage and Housing Corporation, C7-310, 700 Montreal Road, Ottawa, Ontario. K1A 0P7

ALBERTA MUNICIPAL AFFAIRS

Emergency Management Alberta

16th Floor, Commerce Place
10155 – 102 Street, Edmonton, AB T5J 4L4
Phone: 1-780-422-9000
Email: ema@gov.ab.ca
Web: http://www.gov.ab.ca/ma/ds

Emergency Management Alberta District Offices

- **North Western Alberta**
  3101, 10320 - 99 Street
  Grande Prairie, AB T8V 6J4
  Phone: 1-780-538-5295

- **North Eastern Alberta**
  St. Paul Provincial Building
  Rm. 407, 5025 - 49 Ave.
  St. Paul, AB T0A 3A4
  Phone: 1-780-645-6213

- **North Central Alberta**
  2nd Floor, Provincial Building
  30 Sir Winston Churchill Ave.
  St. Alberta , AB T8N 3A3
  Phone: 1-780-418-4666

- **Central Alberta**
  Suite 207, 4920 - 51 St.
  Red Deer Provincial Building
  Red Deer, AB T4N 6K8
  Phone: 1-403-340-5102

- **South Central Alberta**
  #301, 7015 Macleod Trail SW
  Calgary, AB T2H 2K6
  Phone: 1-403-297-6470

- **Southern Alberta**
  315 YPM Place
  530 – 8th Street, South
  Lethbridge, AB T1J 2J8
  Phone: 1-403-381-5222

February 2003

REGIONAL HEALTH AUTHORITIES

- **Chinook Health Region**
  801 – 1 Ave, South
  Lethbridge, Alberta T1J 4L5
  Phone: (403) 382-6666
  Fax: (403) 328-5934

- **Palliser Health Authority #2**
  2948 Dunmore Road. SE
  Medicine Hat, Alberta T1A 8E3
  Phone: (403) 502-8200
  Fax: (403) 528-2250

- **Headwaters Health Authority**
  Box 758
  Okotoks, Alberta T0L 1T0
  Phone: (403) 938-4911
  Fax: (403) 938-2783

- **Calgary Regional Health Authority**
  Box 4016, Stn C
  320 - 17 Avenue, SW
  Calgary, Alberta T2T 5T1
  Phone: (403) 228-7570
  Fax: (403) 228-8698

- **Health Authority #5**
  601 – 7 Street E.
  Drumheller, Alberta T0J 0Y0
  Phone: (403) 823-3341
  Fax: (403) 823-6657

- **David Thompson Regional Health Authority**
  2845 Bremmer Avenue
  Red Deer, Alberta T4N 1S2
  Phone: (403) 341-2155
  Fax: (403) 341-2188

- **East Central Regional Health Authority**
  Box 550
  Stettler, Alberta T0C 2L0
  Phone: (403) 742-3326
  Fax: (403) 742-1353

- **Westview Regional Health Authority**
  1280 A Switzer Drive
  Hinton, Alberta T7V 1T5
  Phone: (780) 865-2277
  Fax: (780) 865-3727

- **Crossroads Regional Health Authority**
  5610 - 40 Avenue
  Wetaskiwin, Alberta T9A 3E4
  Phone: (780) 361-4333
  Fax: (780) 361-4335

- **Capital Health Authority**
  10216 124 Street NW. Suite 300,
  Edmonton, Alberta T5N 4A3
  Phone: (780) 413-7927
  Fax: (780) 482-5383

- **Aspen Regional Health Authority** Provincial Bldg.,
  10008 – 107 Street,
  Morinville, Alberta T8R 1L3
  Phone: (780) 939-3388
  Fax: (780) 939-7126

- **Lakeland Regional Health Authority**
  Box 99,
  Vegreville, Alberta T9C 1R1
  Phone: (780) 632-3331
  Fax: (780) 632-4334

- **Mistahia Regional Health Authority**
  10320 - 99 Street
  Grande Prairie, Alberta T8V 6J4
  Phone: (780) 513-7500
  Fax: (780) 532-1550

- **Peace River Health Regional Health Authority**
  10515 - 99 Street, Box 6178
  Peace River, Alberta T8S 1S2
  Phone: (780) 624-7260
  Fax: (780) 618-3405

- **Keeweetinok Lakes Regional Health Authority**
  309 – 6th Street, NW
  Slave Lake, Alberta T0G 2A2
  Phone: (780) 849-3947
  Fax: (780) 849-3083

- **Northern Lights Regional Health Authority**
  7 Hospital Street
  Fort McMurray, Alberta T9H 1P2
  Phone: (780) 791-6078
  Fax: (780) 791-6042

- **Northwestern Regional Health Authority**
  Box 2000
  High Level, Alberta T0H 1Z0
  Phone: (780) 926-7000
  Fax: (780) 926-7001